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Eliminating the Suffering and Death Due to Cancer

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Advisory Committee Recommends Against Approval of Two New Cancer Drugs

An advisory committee to the U.S. Food and Drug Administration (FDA) last week recommended against the approval of two drugs for the treatment of advanced melanoma and brain metastases, respectively. In both cases, the drugs' manufacturers had submitted applications for FDA approval of their products based on the results of a single phase III clinical trial in which the drug did not achieve the trial's primary endpoint.

During its May 3 meeting, the FDA Oncologic Drugs Advisory Committee reviewed data on efaproxiral (RSR13), a "radiation sensitizer" intended to be used as an adjunct to radiation therapy to make it more effective, and oblimersen (Genasense), part of a new class of "antisense" drugs thought to inhibit the production of proteins that protect cancer cells from treatments like radiotherapy and chemotherapy.

Efaproxiral was being considered as an adjunct to whole brain radiation therapy (WBRT) for brain metastases in patients with breast cancer. Approximately 20-30 percent of breast cancer patients develop brain metastases. In a 538-patient, randomized, open-label trial, the combination of WBRT and efaproxiral failed to improve overall survival compared to WBRT alone. A subgroup analysis not called for in the original trial design, however, found that the WBRT/efaproxiral combination nearly

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Director's Update

Providing Support for Children and Their Families

As we all are painfully aware, cancer can devastate a family. But as many of us have seen, those who have suffered through a bout with cancer or lost a loved one to cancer often respond by trying to help others like them.

HHS Secretary Thompson and NIH Director Zerhouni dedicate new wing at Children's Inn.

Russ Sanford and his family fall into this group. In June 2002, 10-year-old Joe Sanford died after a courageous, 3-year fight with medulloblastoma, a form of brain cancer that typically afflicts children and young adults. The Sanford family underwent the roller-coaster ride that all families do when one member battles cancer—treatment successes and setbacks, periods of calm, and periods of mania.

In the last months of his battle with cancer, Joe was enrolled in a clinical trial conducted at the National Institutes of Health. Russ and his wife, Betsy, responded to their son's odyssey by launching the Joseph Patrick Sanford

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doubled the median survival rate of breast cancer patients with brain metastases compared to WBRT alone (8.67 vs. 4.57 months).

In its own review, the FDA argued that the subgroup analysis was prone to false-positive results. The committee appeared to agree, voting 16-1 that the data presented "did not constitute substantial evidence of efficacy." In February, Allos Therapeutics launched a similar phase III trial, but with breast cancer patients as the intent-to-treat group. The committee agreed that replication of the first trial's results in this subsequent trial would likely smooth the path to FDA approval.

With oblimersen, the committee was again faced with data from a phase III trial that failed to meet its primary endpoint of improvement in overall survival. In a 771-patient trial, patients with advanced metastatic melanoma were treated with dacarbazine (a standard chemotherapy agent) and oblimersen, or dacarbazine alone. New treatments for advanced melanoma have been sparse, yet they are desperately needed. Advanced melanoma is the most lethal form of skin cancer and melanoma incidence has increased more rapidly than any other cancer, more than doubling in the last 30 years.

Although the oblimersen/dacarbazine combination did not improve overall survival compared with dacarbazine alone, it did appear to improve progression-free survival (74 days vs. 49 days) and the antitumor response (11.7 percent vs. 6.8 percent). Based on that and other data, the committee voted 11-5 that the combination had a real effect on response rates.

However, again agreeing with the FDA assessment, committee members felt that the data may not be providing an accurate picture. Committee members questioned the differences in patients' assessment schedules to measure progression-free survival and the process by which tumor response analysis was conducted, both of which could have significantly biased the results. As a result, by a 13-3 margin, the committee voted that the data presented could not be considered substantial evidence of effectiveness.

According to Dr. James Zwiebel, of the National Cancer Institute's Cancer Therapy Evaluation Program, NCI is currently sponsoring 18 studies of oblimersen to treat a variety of both solid and hematologic malignancies. In addition, results from two pivotal phase III trials of oblimersen that Genta has sponsored, in chronic lymphocytic leukemia and multiple myeloma, are anticipated by the end of year. NCI is also sponsoring a phase I/II study of efaproxiral in patients with progressive or recurrent high-grade gliomas. ◆

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Memorial Foundation, which raises money and donates acts of service and funds to help meet the needs of suffering children and also gives to organizations that touched Joe's life during his battle with cancer.

The proceeds from the Foundation's first annual "Joe's Ride" fundraising event were donated to the Children's Inn on the NIH campus. The Inn is a place where children participating in NIH clinical trials and their families can stay when they need to be on campus for treatments over an extended period. Patients being treated in NCI trials are the largest majority of Inn visitors, accounting for approximately 36 percent of annual visits.

A new wing of the Children's Inn was officially opened during a touching ceremony last week. The new wing, which will house 22 additional families, was desperately needed. In 2003, 400 families' requests to stay at the Inn—instead of at nearby hotels, which is often their only resort—had to be denied. There simply wasn't enough room.

With this new addition, at any one time 59 families can call the Inn their home—for a short while at least. The Inn really is a "home away from home" for patients and their families, providing comfortable accommodations, fun events, and the opportunity for families to interact, commiserate, and lean on one another. The Inn is a model for caring for the whole person—a recognition that quality care extends well beyond the hospital or clinic.

When you're embroiled in the enterprise of cancer research—investigating the genetic and molecular origins of cancer, using advanced technologies to search for biomarkers of disease, performing secondary analysis on large clinical trial results to look for interesting trends—it's easy to lose sight of the patients and families who are affected by this disease. But compassion is and must continue to be as much a part of our culture as intellectual excellence is.

At NCI, we are truly committed to palliative care and quality-of-life issues. We are sponsoring research into a number of supportive care areas, including pain management, depression, nutrition, and stress management, and others. The bottom line is that when somebody is diagnosed with cancer, they don't abdicate their right to a sense of normalcy and comfort.

The second annual Joe's Ride is scheduled for this coming weekend. Proceeds from events like this and foundations like the one established by Joe's family, helped make this new wing possible. And these same patients and families staying at the Inn while participating in a clinical trial are benefiting children now and in the future by helping to advance clinical research. That is a true circle of life. ◆

Dr. Andrew C. von Eschenbach
Director, National Cancer Institute

Cancer Research Highlights

Statins Don't Increase Breast Carcinoma Risk, Study Says

Use of popular cholesterol-lowering drugs called statins does not increase post-menopausal women's risk of breast cancer, according to the results of a new NCI-funded study. Published in an early, online release of the June 1 issue of *Cancer*, the population-based, case-control study compared 975 women ages 65-79 diagnosed with breast carcinoma with 1,007 women without breast carcinoma. Statin use—whether extended use or a single period of use lasting at least six months—did not appear to increase breast carcinoma risk. On the contrary, regular use for more than five years was associated with a decrease in risk.

The 975 women were identified via a western Washington State cancer registry that is also part of NCI's Surveillance, Epidemiology, and End Results (SEER) program. All participants underwent in-person interviews, including the collection of a detailed medication usage inventory. Statin use has increased dramatically in recent years, explained lead author Dr. Denise Boudreau from the Center for Health Studies of the Group Health Cooperative in Seattle, Wash. In fact, the two top-selling drugs in the United States last year—Lipitor and Zocor—were statins, according to IMS Health.

"The increasing trend of statin use is likely to continue," the authors concluded, because of factors such as the aging population and expanded indications for primary prevention of coronary heart disease. "The current study results both provide reassurance concerning the safety of statin use among older women and support the emerging evidence that statins may have a chemopreventive action on breast carcinoma risk."

New Drug for Renal Cancer to Enter Phase I Trials

A new drug with selectivity for renal cell carcinoma may be in the offing in the next few years.

NCI scientists have been developing aminoflavone (AF) as a possible chemotherapy drug. AF is a synthetic compound related to natural plant chemicals called flavonoids. In the April 2004 *Journal of Urology*, the NCI team reports that AF has antitumor activity in animal models of renal cancer, with potent antiproliferative activity in certain renal cancer cell cultures, as well as in some cell strains, or explants, derived from patients' renal tumors.

"That AF worked in renal tumor explants, which are closer to tumors in people than cell cultures, is promising," said Dr. Edward Sausville, associate director of NCI's Developmental Therapeutics Program (DTP), who directed the research team.

AF exhibited selective reactivity for certain cell cultures or strains because those cells, like normal cells, were unable to metabolize the agent. "This means AF may kill tumor cells without destroying bone marrow and having other toxic effects," explained Dr. Sausville.

"Those tumor cells that metabolized the drug—which included a number of papillary renal cell carcinomas—self-destructed," said Dr. Sausville. DTP is producing more AF so the compound can enter phase I clinical trials in approximately six months.

If the drug works in humans, clinicians could feasibly do a biopsy or fine needle aspiration on a renal tumor and test the cells to see if they metabolize AF. "We could select patients who have the greatest likelihood of benefiting," said Dr. Sausville.

New Method Allows *In Vivo* Imaging of Drug Targets

Dr. Peter M. Smith-Jones and colleagues at Memorial Sloan-Kettering Cancer Center have developed a new technique that allows scientists to directly visualize the molecular effects of a drug *in vivo*, as reported in an advance online publication in *Nature Biotechnology* on May 9. In principle, this technique may be adapted for use with other drugs and can provide researchers with information on the mechanism of drug action, as well as yield pharmacological data on the correct dosage and schedule for a molecularly targeted drug.

The researchers studied the effects of 17-AAG, a derivative of the antibiotic geldanamycin, on the receptor tyrosine kinase HER2, which is a validated protein target for anticancer drugs in certain breast cancers. The imaging used positron emission tomography (PET) scanning that was based on the use of the radionuclide-labeled antibody trastuzumab (Herceptin) to target and label HER2. They could then visualize the changes in levels of HER2 in response to 17-AAG.

Compounds such as 17-AAG and geldanamycin indirectly affect the levels of HER2 by inhibiting heat shock protein 90 (Hsp90)—a chaperone protein that is required for the maturation and stability of certain

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(Research Highlights continued from page 3)
key signaling proteins including HER2. Inhibition of Hsp90 results in antitumor activity caused by the degradation of HER2.

"This technique may be used to image the pharmacodynamic effects of antireceptor antibodies and tyrosine kinase inhibitors as well as Hsp90 inhibitors," conclude the authors of the report, regarding the applicability of this technique.

New Studies of BRCA1 Explain Its Role in Causing Cancer

Two new studies, published in advance of their print publication on the *Nature Structural and Molecular Biology* Web site on May 9, provide insight into the molecular mechanisms for how mutations in the tumor suppressor gene actually lead to cancer. Mutations in the BRCA1 gene are responsible for most cases of inherited, early-onset breast cancers.

The studies use X-ray crystallography to determine the molecular structure of the highly conserved BRCA1 C-terminal (BRCT) domain that consists of a tandem repeat of two highly similar subdomains. These BRCT tandem repeats function in the recognition and binding of BRCA1 with other proteins. The repeats recognize specific phosphoproteins, which are proteins that possess a phosphorylated serine or threonine amino acid. Phosphorylation is a common way for cells to regulate the interaction of proteins.

The first paper, by Dr. Michael B. Yaffe and colleagues from Massachusetts Institute of Technology and the UK National Institute for Medical Research, reports the structure of the BRCT domain with a peptide derived from the BACH1 protein, a known binding partner of BRCA1.
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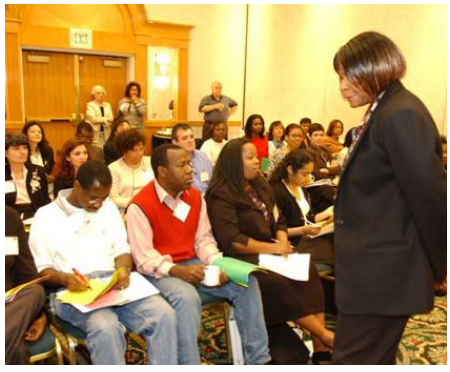
Special Report

NCI Boosting Ranks of Minority Cancer Researchers

Last week in a hotel in the suburbs of Washington, D.C., a room of young cancer researchers gathered to learn about some grant opportunities available to them through NCI, receive guidance on keeping their careers moving forward, and network with their peers. Although not an unusual event in any respect, this particular workshop did offer one unique aspect: attendees were all from groups of underrepresented minorities in cancer research. The workshop was sponsored by NCI's Comprehensive Minority Biomedical Branch (CMBB).

"You're going to take us to 2015 and beyond," NCI Director Dr. Andrew C. von Eschenbach told the attendees. "And that's why it's so critically important that we do everything possible now to make certain that your careers are nurtured and that you have the tools and opportunities available to you to flourish."



CMBB's Belinda Locke instructs participants on the NIH Review Process.

In 1975, NCI leaders and researchers formed the Comprehensive Minority Biomedical Program to encourage minority individuals to choose and participate in biomedical research careers. Since then, the program has evolved into the CMBB.

CMBB's ambitious goal, says its director, Dr. Sanya Springfield, is to "significantly increase the number of underrepresented minorities participating as competitive NCI/NIH-funded cancer researchers." To this end, CMBB has pursued three main strategies:

- Broadening the participation of underrepresented minority individuals in cancer-related research and training activities while encouraging independence and a competitive spirit
- Raising the competitive research capacity of Minority Serving Institutions (MSIs)
- Becoming a national resource and raising the level of effectiveness of other programs and organizations that are genuinely interested in increased participation of underrepresented minority individuals and organizations in their cancer research enterprises.

One of the CMBB's most successful efforts has been the Continuing Umbrella of Research Experiences (CURE) program. This program directs long-term funding to qualified minority students interested in scientific, cancer research-related careers.

CURE builds on the success of the Research Project Grant Supplement
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Program, Research Supplements for Underrepresented Minorities, through which minority students can apply for supplements throughout their academic careers and combine these with numerous other programs as they move through college undergraduate, graduate, and post-doctoral programs. In 2003, CMBB, through CURE, allocated $26 million to 304 minority applicants at various stages in their academic careers, under individual grant and supplement programs.

CMBB also supports efforts of NCI Cancer Centers and other institutions to recruit more minorities to cancer research. To raise the research capacity of MSIs, five years ago the CMBB launched the Minority Institution/Cancer Center Partnership (MI/CCP) program to develop and fund partnerships between major cancer research and training institutions and MSIs. Since its inception, 54 projects have been funded under various planning, partnership, and collaboration grants.

One example of a thriving MI/CCP partnership involves New Mexico State University (NMSU) in Las Cruces and the Fred Hutchinson Cancer Research Center in Seattle. Launched in June 2002 with a 5-year, $2.5 million planning grant, Hutchinson researchers developed a set of pilot projects—some focused on cancer in minority populations—and offered paid internships to NMSU minority students. In the fall of 2002, Nina Senutovich, an NMSU undergraduate hoping to pursue a career in immunology, joined the center's virology lab for a 10-week stint. "Initially I was nervous," she admits, "until I discovered that the people at Hutch are friendly and relaxed." At Hutchinson, Ms. Senutovich says, she developed "skills that will be useful for the rest of my career."

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Featured Clinical Trial

Familial Chordoma Study

Name of the Trial

Genetic, Clinical, and Epidemiological Study of Individuals and Families at High Risk of Cancer (NCI-78-C-0039). See the protocol summary at http://cancer.gov/clinicaltrials/NCI-78-C-0039.

Principal Investigators

Dr. Margaret Tucker and Dr. Dilys Parry, NCI's Division of Cancer Epidemiology and Genetics.

Dr. Dilys Parry
Principal Investigator

Why Is This Study Important?

Chordoma is a rare bone tumor at the base of the skull, in the vertebra, or in the area of the tailbone. Only about 300 cases are diagnosed in the U.S. each year. While most people with chordoma have no other family members with the disease, rare occurrences of multiple cases within families have been documented. This suggests that some people may be genetically predisposed to develop chordoma. Because genetic or hereditary risk factors for chordoma may exist, scientists are searching for genes involved in the development of this tumor.

NCI is seeking families with two or more relatives with chordoma to participate in this study. Participants will complete a questionnaire, provide a blood sample, and undergo magnetic resonance imaging (MRI) scans.

"By studying these types of families, we've already mapped a gene to one chromosome that may be responsible for chordoma," said Dr. Parry. "Now we want to recruit more families with multiple cases of chordoma so we can narrow the region on the chromosome where this gene is located and determine whether or not other genes may be involved."

Who Can Join This Study?

Researchers seek to enroll families that meet one of the following criteria: have at least two blood relatives with a history of chordoma; have one family member with a history of chordoma and at least one blood relative with a history of a childhood brain tumor; or have one family member diagnosed with chordoma at age 20 or younger. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/NCI-78-C-0039.

Where Is This Study Taking Place?

The study will be done at the NIH Clinical Center in Bethesda, Md. NIH will pay for travel to and from Bethesda and all study-related medical expenses for any person participating in the study.

Who to Contact

Contact Stephanie Steinbart, the chordoma study research nurse, at 1-800-518-8474, or call the NCI Clinical Studies Support Center (CSSC) at 1-888-NCI-1937. The call is toll free and confidential. For additional information, visit the Chordoma Study Web site at http://dceg.cancer.gov/chordoma.html. ◆

An archive of "Featured Clinical Trial" columns is available at http://cancer.gov/clinicaltrials/ft-all-featured-trials.

Funding Opportunities

Diet, Epigenetic Factors, and Cancer Prevention

PA-04-099
Application Receipt Date: April 30, 2006

NCI invites applications that are focused on research leading to the elucidation of mechanism(s) by which dietary factors influence epigenetic processes as well as increasing the understanding of these processes in cancer prevention. The objective is to encourage collaboration between nutrition and epigenetic experts to study bioactive food components with cancer preventive properties and to examine key epigenetic events in cancer processes so that investigators can begin to establish linkages between epigenetics, methylation pattern, and tumor incidence/behavior.

The PA will use the NIH Investigator-Initiated Research Project Grant (R01), the NIH Exploratory/Developmental Grant (R21), and the NIH Small Grants Program (R03) as award mechanisms.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2063

Inquiries: Dr. Sharon A. Ross, rosssha@mail.nih.gov

Characterization, Behavior, and Plasticity of Pluripotent Stem Cells

PA-04-101
Application Receipt Dates: July 1, 2004; Nov. 1, 2004; March 1, 2005; July 1, 2005; Nov.1, 2005; March 1, 2006; July 1, 2006; Nov. 1, 2006; March 1, 2007; July 1, 2007

NCI, along with other branches of NIH, invites applications for studies on the characterization, behavior, and plasticity of human and nonhuman stem cells; regulation of their replication, differentiation, integration, and function in the nervous system; and identification and characterization of normal and tumor stem cells.

The PA will use the Exploratory/Developmental Grants (R21) mechanism and the Research Project (R01) grant mechanism.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2062

Inquiries: Dr. Neeraja Sathyamoorthy, ns61r@nih.gov

Phased Application Awards in Cancer Prognosis and Prediction

PA-04-102
Application Receipt Dates: July 1, 2004; Nov. 1, 2004; March 1, 2005; July 1, 2005

This PA replaces PAR-03-098. NCI's Cancer Diagnosis Program invites applications for research projects to evaluate the utility and pilot the application of new strategies for determining prognosis or predicting response to therapy, thus providing tools to improve clinical decision-making in the care of cancer patients. This PA provides support for a first phase (R21) for technical development and a second phase (R33) for application and evaluation of clinical utility.

The PA will use the Exploratory/Developmental Research Grant Phase 2 (R33) and the combined R21/R33 Phased-Innovation Award mechanisms.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2060

Inquiries: Dr. Tracy G. Lugo, lugot@mail.nih.gov; Dr. Magdalena Thurin, thurinm@mail.nih.gov; Dr. James V. Tricoli, tricolij@mail.nih.gov

Testing Tobacco Products Promoted To Reduce Harm

PA-04-103
Application Receipt Dates: July 1, 2004; Nov. 1, 2004; March 1, 2005; July 1, 2005; Nov. 1, 2005; March 1, 2006

The purpose of this PA is to stimulate multidisciplinary research on potential reduced-exposure tobacco products, both smoked and smokeless, through the interplay of basic, biological, and behavioral research, surveillance, and epidemiology.

The PA will use the NIH Investigator-Initiated Research Project Grant (R01) and the Exploratory/Developmental Grant (R21) award mechanisms.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2061

Inquiries: Dr. Mirjana V. Djordjevic, djordjev@mail.nih.gov ◆

Upcoming Science Writer's Seminar

On June 11, NCI and the Institute of Medicine (IOM) will co-host a science writer's seminar entitled "The Science of Breast Cancer: From Data to Discovery." This seminar is being held the day after the release of the IOM's report, "Saving Women's Lives: Strategies for Improving Breast Cancer Detection and Diagnosis," and will feature a panel of renowned researchers and experts in the field. Please consult future issues of the *NCI Cancer Bulletin* and cancer.gov for information on registration and online viewing.

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Events like last week's annual professional development and peer review workshop serve to bring together minority grant and supplement recipients with NCI and other researchers and CMBB staff. The workshop allows CURE grantees to learn about career development, gather information about funding opportunities, and develop an understanding of the intricacies of the different supplement and grant programs. Other opportunities bring together MI/CCP partners to collaborate on initiatives and develop research networks.

Dr. Springfield and CMBB staff, who include Ms. Bobby Rosenfeld, Dr. Hector Aguila, Dr. Peter Ogunbiyi, Ms. Belinda Locke, and Ms. LaShell Gaskins, are the first to admit that more still needs to be done. But they also note that many underrepresented minority scientists are successfully competing for NIH funding. "In turn," said Dr. Springfield, "these individuals are serving as role models for students from minority populations who, like them, want to dedicate their lives to helping others with a career in cancer research."

For details of all the grant and supplement programs available under CURE, go to http://minorityopportunities.nci.nih.gov/mTraining/index.html. ◆

(Research Highlights continued from page 4)

The second paper, by Dr. J. N. Mark Glover and colleagues at the University of Alberta, further elucidates the molecular and chemical nature of the recognition of phosphorylated proteins by the BRCT repeats.

Both reports show that the mutations abolish the ability of BRCA to recognize and bind to phosphorylated proteins, which disrupt the role of the protein in homologous recombination and DNA repair and lead to elevated cancer risk. ◆

Notes

Let Us Hear From You

Since its debut in January, the *NCI Cancer Bulletin* has provided its readers with a weekly snapshot of happenings in the cancer community—from research highlights to featured clinical trials and legislative updates. From now through May 27, you'll have the opportunity to tell us how we're doing by completing an online reader survey at http://www.cancerbulletin-survey.org.

By completing this short questionnaire, you'll help us to better meet the needs of our readers. Your feedback is vital in shaping future editions of the *NCI Cancer Bulletin*, an important tool in NCI's effort to disseminate information to the cancer community.

All survey responses are confidential and respondents can choose to answer or skip any questions in the survey. For more information, please contact Nina Goodman at goodmann@mail.nih.gov or at (301) 435-7789.

Conference to Address Health Outcomes Assessment

NCI and the Drug Information Association are cosponsoring the conference, "Advances in Health Outcomes Measurement," June 24-25 in Bethesda, Md. The meeting will focus on innovative techniques for patient-reported outcomes assessment based on item response theory (IRT) modeling and computerized adaptive testing (CAT). Members from academia, industry, and government will outline a research agenda for the future of health outcomes and behavioral science measurement. An introductory IRT workshop will be offered on the day before the start of the conference.

To register for the conference or view the program, go to http://www.diahome.org/docs/Events/events_search_detail.cfm?EventID=04015. For preliminary content and related information, go to http://www.outcomes.cancer.gov/conference/irt or contact Bryce Reeve at reeveb@mail.nih.gov.

NCI at ASCO

Look for NCI at booth 245 in the exhibit hall at the annual American Society of Clinical Oncology meeting in New Orleans, La., June 5–7. Attendees can learn about clinical trials, funding, and training opportunities at NCI. Publications and other resources for clinicians, researchers, and patients on cancer and related conditions will be available at the booth. ◆

CCR Grand Rounds

Dr. Robert B. Diasio, chairman of the Department of Pharmacology and Toxicology at the University of Alabama at Birmingham Comprehensive Cancer Center, will present "The Increasing Importance of Pharmacogenetics/Pharmacogenomics in Cancer Chemotherapy: Lessons from 5-Fluorouracil Research" at the NCI Center for Cancer Research (CCR) Grand Rounds on May 18.

At the May 25 CCR Grand Rounds, Dr. Henry T. Lynch, professor and chairman of the Department of Preventive Medicine and professor of medicine at Creighton University School of Medicine, will present "Lynch Syndrome (HNPCC): Genetic Counseling, Surveillance, Management, and Molecular Genetics."

CCR Grand Rounds are held 8:30 to 9:30 a.m. at the NIH campus in Bethesda, Md. in the Clinical Center's Lipsett Ampitheater.

Featured Meetings

This is a list of selected scientific meetings sponsored by NCI and other organizations. For locations and times and a more complete list of scientific meetings, including NCI's weekly seminars and presentations open to the public, see the NCI Calendar of Scientific Meetings at http://calendar.cancer.gov.

NCI Advisory Committee Upcoming Meetings

Date	Advisory Committee
Jun 1-3	National Cancer Advisory Board
Jun 24-25	NCI Board of Scientific Advisors

Selected Upcoming Meetings of Interest

Date	Meeting	NCI Speakers
May 12-15	Association of Oncology Social Work 20th Annual Conference—Finding Our Voice: The Power of Oncology Social Work	Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities
May 18-20	Working Together to Address the Unequal Burden of Cancer—Reaching Special Populations in the Mid South to Lessen Cancer Disparities: Sharing Innovative Ideas and Sustaining Outcomes	Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities; Mary Anne Bright, Acting Deputy Director, Office of Communications; Frank Jackson, Program Director, Disparities Research Branch, Center to Reduce Cancer Health Disparities
May 19-20	UCLA Molecular Toxicology Seminar	Dr. J. Carl Barrett, Director, Center for Cancer Research

NCI Exhibits

NCI Exhibits are presented at various professional and society meetings. Further information about the NCI Exhibits program can be found at http://exhibits.cancer.gov.

This *NCI Cancer Bulletin* is produced by the National Cancer Institute (NCI). NCI, which was established in 1937, leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

For more information on cancer, call 1-800-4-CANCER or visit http://cancer.gov.

NCI Cancer Bulletin staff can be reached at ncicancerbulletin@mail.nih.gov.

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